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09/550,219	04/17/2000	Charles David Johnson	IBMN.009US01 (0519)	1333

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Chambliss, Bahner & Stophel, P.C.
1000 Tallan Building
Two Union Square
Chattanooga, TN 37402

EXAMINER	
GARCIA, GABRIEL I	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/550,219	JOHNSON ET AL.	
	Examiner	Art Unit	
	Gabriel I. Garcia	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *5/2/07 & 10/5/07*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Part III DETAILED ACTION

1. This application has been examined. Claims 1-31 are pending in this application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-8, 10-11, 13-15, 18-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Niwa (5,371,873).

With regard to claim 1, Niwa teaches receiving a print job having associated data (printer/device receives data, see lines 22-23 of column 10 and lines 4-9 or column 11), writing the print data associated with the print job to a storage device" (data is stored in storage unit 23, see lines 19-20 of column 10 and lines 13-16 of column 11), reading the print data associated with the print job from the storage device concurrently with the writing of the print data associated with the print to the storage device (print data is printed by reading data from storage device simultaneously with data transfer into the storage device, lines 19-22 of column 11 and lines 29-33 of column 10, else reads on col. 11, lines 54-61) and printing the print data that is read read from the storage device concurrently while the print data associated with the print job

is being written to the storage (device is a laser print which print data from storage unit 21, see lines 22-25 of column 10, see also col. 11, lines 54-61).

With regard to claim 2, Niwa teaches reading the print data associated with the print job from the storage device as long as at least a portion of the print data associated with the print job is available on the storage device (printer prints data read from the storage device until complete document printed) .

With regard to claim 3, Niwa teaches generating a message indicating that the print job is pending (message/status is communicated to host regarding job status, see, lines 43-48 of column 10, lines 51-60 of column 9 and lines 50-60 of column 11)

With regard to claim 4, Niwa teaches initiating the reading of the print data from the storage device in response to recognition of the message (operation resumes upon receipt of error clear command, see, lines 43-48 of column 10, lines 51-60 of column 9 and lines 50-60 of column 11)

With regard to claim 5, Niwa teaches maintaining status attributes to identify a data file for the print job that has been created on the storage device to spool the print data, and to identify when at least a portion of the print data associated with the print job becomes available on the storage device (status of memory includes area reserved information, see lines 50-60 of column 11).

With regard to claim 6, Niwa teaches monitoring the status attributes to determine when the print data associated with the print job becomes available on the storage device: and initiating the reading of the print data from the storage device upon recognition of the status attributes

indicating that at least a portion of the print data associated with the print job is available on the storage device (status of memory includes area reserved information, see lines 50-60 of column 11).

With regard to claim 7, Niwa teaches suspending reading of the print data associated with the print job if the quantity of the print data written to the storage device is less than a predetermined number of bytes (reading of the print data stops when there is no data remaining) .

With regard to claim 8, Niwa teaches suspending reading of the print data associated with the print job when all of the print data written to the storage device has been read from the storage device (reading of the print data stops when there is no data remaining) "but before the print data has been written to the storage device in its entirety" (reading would stop if there was no data whether printing was done or not).

With regard to claim 10, Niwa teaches resuming reading of the print data when additional print data has been written to the storage device (operation resumes upon receipt of error clear command, see, lines 43-48 of column 10, lines 51-60 of column 9 and lines 50-60 of column 11).

With regard to claim 11, Niwa teaches reading the print data from the storage device only after the writing of the print data has complete, if the print data is associated with predetermined one or more file types (for jobs types with data storage speed much greater then print speed, buffer an print is set, see lines 19-24, column 10 and lines 3-14 of column 8).

With regard to claim 13, Niwa teaches reading a number of bytes of the print data from the storage device that is above a number of bytes of the print data that has been written to the

storage device (all of the print data of one print job is finished before reading the data from the next print job).

With regard to claim 14, Niwa teaches updating despool availability status to identify the print data as available for reading from the storage device upon creation of a data file on the storage device to which the print data is directed" (availability is communicated to identify that print data is available for printing in the buffer and print mode print file is created first, see lines 62-4 of columns 12-13).

With regard to claim 15, Niwa teaches monitoring the despool availability status to determine when to initiate the reading of the print data from the storage device" (availability is determined to determine when print data is available for printing in the buffer, see lines 62-4 of columns 12-13) .

With regard to claim 18, the limitations of claim 18 are covered by the limitations of 1 above; Niwa teaches at least one input channel to receive the print job requests (printer/device receives data thru communication input 3 receives print job from host, see front figure, see lines 22-23 of column 10 and lines 4-9 of column 11), a storage medium to store print data associated with the print job requests (medium of disk drive and/or medium of ram is used for storing), a spooling module coupled to receive the print job requests and associated print data, and to write the print data to the storage medium" (data writing means, see lines 13-18 of column 11), a despooling module to receive notification of an availability of the print data on the storage medium (data read out means, see lines 19-25 of column 1), concurrently read a first portion of the print data from the storage medium as a second portion of the print data is written to the storage medium

(print data is printed by reading data from storage device simultaneously with data transfer into the storage device, lines 19-22 of column 11 and lines 29-33 of column 10) and "a print engine to print the print data read from the storage medium" (print engine 11 prints data from storage device).

With regard to claim 19, Niwa teaches an active spool indication to indicate that the print data is being written to the storage medium" (message/status is communicated to host regarding job status, see, lines 43-48 of column 10, lines 51-60 of column 9 and lines 50-60 of column 11).

With regard to claim 20, Niwa teaches write count indication to indicate a number of bytes of the print data that has been written to the storage medium" (data length is recognize, see lines 15-21 of column 6) as claimed in claim 20 of Niwa.

With regard to claim 21, Niwa teaches reading the first portion of the print data that does not exceed the write count indication (reserving limits for memory are used, see lines 19-25 or column 11).

With regard to claim 22, Niwa teaches storage medium is a hard disk (see lines 49-54 of column 3) .

With regard to claim 23, Niwa teaches hard disk is formatted with a spooler directory to reserve storage for the print data associated with the print job requests" (area reserving means reserves storage for print job, see lines 26-35 of column 11) .

With regard to claim 24, Niwa teaches hard disk is resident on the printing device (see lines 49-54 of column 3 and front figure).

With regard to claim 25, the limitations of claim 25 are covered by the limitations 1 above; Niwa one or more client systems arranged in a network to generate print jobs identifying print data for printing (host computer 2 is client), transmission media coupled to receive the print jobs and to transfer the print jobs initiated on the network (3 is coupled host computer and transfers print job to printer/device receives data, see lines 22-23 of column 10 and lines 4-9 or column 11), a printing device coupled to the network via the transmission media to receive and process the print jobs (printer is connected to network 3 and received print job), a storage medium to store print data associated with the print jobs (medium of disk drive and/or medium of ram is used for storing), a spooling module coupled to receive the print jobs and associated print data, and to write the print data to the storage medium (data is stored/spooled in storage unit 23, see lines 19-20 of column 10 and lines 13-16 of column 11), a despooling module to receive notification of an availability of the print data on the storage medium, and to concurrently read a first portion of the print data from the storage medium as a second portion of the print data is written to the storage medium; and a print engine to print the print data read from the storage medium" (print data is printed by reading/despooling data from storage device simultaneously with data transfer into the storage device, lines 19-22 of column 11 and lines 29-33 of column 10)).

With regard to claim 26, Niwa teaches at least one input channel to receive the print job requests (3 is a input channel).

With regard to claim 27, Niwa teaches a job monitor module to maintain spooling status

including an active spool indication to indicate that the print data is being written to the storage medium" (message/status is communicated to host regarding job status, see, lines 43-48 of column 10, lines 51-60 of column 9 and lines 50-60 of column 11).

With regard to claim 28, Niwa teaches a job monitor module to maintain spooling status including a write count indication to indicate a number of bytes of the print data that has been written to the storage medium (status of memory includes area reserved information, see lines 50-60 of column 11).

With regard to claim 29, Niwa teaches reading the first portion of the print data that does not exceed the write count indication (reserving limits for memory are used, see lines 19-25 or column 11).

With regard to claims 30 and 31, the limitations of claims 30 and 31 are covered by the limitations of claims 1 above; and Niwa teaches computer-read able program storage medium tangibly embodying a program of instructions executable by a printer system to process print jobs (RAM and/or hard disk contain control program to process print jobs), "receiving a print job having associated print data" (printer/device receives data, see lines 22-23 of column 10 and lines 4-9 or column 11), "writing the print data to a storage device" (data is stored in storage unit 23, see lines 19-20 of column 10 and lines 13-16 of column 11), "reading the print data from the storage device concurrently with the writing of the print data to the storage device" (print data is printed by reading data from storage device simultaneously with data transfer into the storage device, lines 19-22 of column 11 and lines 29-33 of column 10) and "printing the print data read from the storage device" (device is a laser print which print data from storage unit 21, see lines 22-25 of column 10)., and Niwa teaches creating a file on a storage device in which to store the

print job (print mode print file is created first, see lines 62-4 of columns 12-13), writing print data associated with the print job to the storage device (data is stored in storage unit 23, see lines 19-20 of column 10 and lines 13-16 of column 11), maintaining a status indicator indicating whether the print data is currently being written to the storage device (availability is determined to determine when print data is available for printing in the buffer, see lines 62-4 of columns 12-13), "monitoring the status indicator to determine if the print job is currently being written to the storage medium" (managing the status of memory for outputting information, see lines 54-60 of column 11), "retrieving the print data associated with the print job from the storage medium concurrently with the writing of the print data to the storage medium" (print data is printed by reading data from storage device simultaneously with data transfer into the storage device, lines 19-22 of column 11 and lines 29-33 of column 10), "the print data retrieved is the portion of the print data associated with the print job that has been written to the storage device" (data read out means, see lines 19-25 of column 11) and "sending the retrieved print data associated with the print job to the printing device for printing" (device is a laser print which print data from storage unit 21, see lines 22-25 of column 10).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 9, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwa (5,371,873)

Niwa teaches the invention substantially as claimed. However Niwa does not teach "generating an end of job indication when the print data has been written to the storage device in its entirety" as claimed in claim 9. End of job indication, i.e. control character which indicates end of job, is the most common way to determine the end of job in the field of endeavor of the invention. Without a control character, which indicates end of job, two documents sometimes run together. It would have been to one of ordinary skill in the art to use an end of job indication in the system of Niwa for the advantage of accurately determining when it is the end of job.

With respects to claim 12, "PDF file type" is not taught. PDF or page description file is a common data type for text and other documents in the same field of invention as claimed. It would have been obvious to one of ordinary skill in the art to use PDF in the system of Niwa because of its compact data size and to permit compatibility with computer that use PDF.

4. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwa in view of Popelka et al.(6,081,883).

Niwa teaches "monitoring the despool availability status comprises monitoring the despool availability status using a back-end despooling" (printing and despooling begins after all data is received i.e. backward despooling, see lines 19-28 of column 10) as claimed in claim 16 and "updating the despool availability status comprises updating the despool availability status using

a front-end spooling" (printing and despooling begins before all data is received i.e. front-end despooling, see lines 29-39 of column 10) as claimed in claim 17. However Niwa does not teach "daemon" as claimed. Popelka et al teach spooling/despoiling daemon (see lines 6-7 in column 9) as claimed in the same field of endeavor as claimed. It would have been obvious to one of ordinary skill in the art to use daemons in the system of Niwa for the advantage of transparent spool operation.

Conclusion

4. Applicant's arguments filed 5/2/07 and 10/5/07 have been fully considered but they are not persuasive. Applicant's argument(s) have been address in the body of the rejection above.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Goldsmith et al. (5,367,673) teaches a queueing request from remote stations for proof processing of files that are transmitted only when processing resources become available.

Kwak (5,546,511) teaches a high speed videos image printing method and and apparatus therefor.

Bender et al. (5,791,790) teaches buffering for a printer on a fast data path.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Gabriel I. Garcia** whose telephone number is (571) 272-7434. The examiner can normally be reached Monday-Thursday from 7:30 AM-6:00 PM.. The fax phone number for this group is (571) 273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (571) 272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-2600.

Gabriel I. Garcia
Primary Examiner
February 2, 2008

GABRIEL I. GARCIA
PRIMARY EXAMINER